

REMARKS

Please reconsider the application in view of the following remarks. Applicant thanks the Examiner for indicating that claim 10 contains allowable subject matter.

Disposition of Claims

Claims 1-15 are pending in this application. Claims 1 and 8 are independent. The remaining claims depend, either directly or indirectly, from claims 1 and 8.

Rejection(s) under 35 U.S.C. § 102

Claims 1, 2, 5-7, 8, 9, 11, 14, and 15 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,992,380 issued to Moriarty et al. ("Moriarty"). This rejection is respectfully traversed.

Claim 1 recites a method for controlling concentration of a water treatment chemical that includes the steps of adding a water soluble lithium salt as a tracer substance along with the water treatment chemical to the water to be treated, electrochemically or optically measuring the concentration of lithium ions using a lithium sensitive substance, and using the measured lithium concentration to control the concentration of the water treatment chemical added to the water to be treated.

Claim 8 recites an apparatus for controlling concentration of a water treatment chemical that includes a lithium ion sensitive substance placed in contact with water to be treated, a transducer for converting a state of the lithium sensitive substance into an electric or optical signal, an arithmetic section for receiving the signal and calculating a concentration of the water treatment chemical, and a control section for determining, based on the calculated

water treatment chemical concentration, an amount of the water treatment chemical to be added to the water to be treated.

Moriarty teaches that a tracer substance may be continuously monitored and measured through both optical and electrochemical means and that a change in the tracer substance can be converted into an electrical or optical signal through a transducer (Col. 23-Col. 24). However, Moriarty does not teach, show, or suggest the electrochemical or optical measurement of lithium ions through changes in a lithium sensitive substance. While Moriarty initially refers to the use of lithium ions as a tracer in Column 4, as cited by the Examiner, Moriarty's teaching with respect to the use of lithium ions as a tracer is limited to the use of lithium ions in slug-feed and die-away tests (Col. 10, line 24–Col. 11, line 37). In discussing the use of lithium ions and slug-feed and die-away tests, Moriarty clearly states that lithium ions cannot be measured continuously and that quantitative measurement of lithium ions requires atomic adsorption or emission spectrophotometry. Nowhere in the specification does Moriarty teach electrochemically or optically measuring concentration of lithium ions, as required by claim 1. Nor does Moriarty teach a transducer for converting a state of the lithium sensitive substance into an electric or optical signal, as required claim 8. Moriarty's teaching of continuous electrochemical or optical measurement of tracers does not apply to the measurement of lithium ions via lithium sensitive substances, as asserted by the Examiner. Accordingly, because Moriarty does not teach all limitations of independent claims 1 and 8, claims 1 and 8 are patentable for at least these reasons. Dependent claims are also patentable for at least these reasons. Accordingly, withdrawal of the rejection is respectfully requested.

Rejection(s) under 35 U.S.C. § 103

Claims 3, 4, 12, and 13 were rejected under 35 U.S.C. § 103(a) as being obvious over Moriarty in view of either U.S. Patent No. 6,508,921 issued to Mu et al. ("Mu") or Japanese Reference 62-202875 ("Shono"). Because claims 3, 4, 12, and 13 depend from independent claims 1 and 8, which are shown to be allowable above, these claims are patentable for at least the same reasons. Accordingly, withdrawal of the rejection is respectfully requested.

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 08228/036002).

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Respectfully submitted,

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